

Marginal Models: an Alternative to Mixed-effects Models in Sociolinguistic Research

David Eddington (Brigham Young University)

Sociolinguistic studies generally gather multiple instances from a single speaker. This introduces repeated measures that need to be taken into account when carrying out statistical analysis in order for the outcome to be statistically valid. One way of doing this is to apply a mixed-effects model. In the workshop, I present a lesser-known, but equally valid method for dealing with repeated measures—marginal models.

Mixed-effects models are computationally intense, and as a result they sometimes fail to converge or yield errors in the Hessian matrix. Sometimes, in spite of the researcher's best efforts to deal with these problems, they cannot be resolved. Under these circumstances, a marginal model is an alternative that still accounts for the repeated measures in the data, but does not produce the kinds of errors that are common in a mixed-effects model.

In the workshop I demonstrate how to carry out a marginal model analysis of a number of different sociolinguistic data sets using SPSS, and application that integrates a point-and-click interface making it a user-friendly way to introduce researchers to statistical analysis. The workshop will be a hands-on experience in which the attendees will run several different analyses themselves. Everything needed for the workshop will be provided. The topics will include a discussion of how marginal and mixed-effects models differ, when it is appropriate to use a marginal model, and how the best-fitting marginal model is achieved.